

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 89-122
NPDES NO. CA0038059

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

AQUIFER RECLAMATION/SALINITY BARRIER WELLS
ALAMEDA COUNTY WATER DISTRICT
FREMONT AND NEWARK, ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter the Board) finds that:

1. Alameda County Water District, hereinafter Discharger, by application dated January 26, 1989, has submitted a report of waste discharge for reissuance of NPDES Permit No. CA0038059 to discharge wastes under the National Pollutant Discharge Elimination System (NPDES).
2. The Discharger is currently rehabilitating the Niles Cone Ground Water Basin aquifers by removing saline water which has intruded from San Francisco Bay and creating a barrier controlling further intrusion. The extracted brackish water is pumped from a total of 15 wells to six discharge locations in the Fremont - Newark area for a total flow of up to 30 million gallons per day (mgd) monthly average and returned to the Bay at locations shown in the chart below (the discharge serial and well site numbers are those used in the Discharger's application). Actual discharge rate in 1988 was less than 3 mgd during 145 days of discharge (220 days of no discharge). This low discharge rate was due to the drought conditions which have existed since 1986 and because of concerns about accelerating the migration of contaminated groundwater caused by four chemical companies in the area (Ashland Chemical Company, FMC Corporation, Jones-Hamilton Company, and Romic Chemical Corporation). Maps showing the 15 wells and the discharge locations are appended as ATTACHMENT A, hereinafter a part of this Order.

Effluent Stream #	Discharge Serial #	Highest Monthly Average Flow and Discharge Location	Well Site
E-07	01	2 mgd to Alameda Creek Flood Control Channel (Latitude 37 deg., 35 min., 37 sec.; Longitude 122 deg., 05 min., 28 sec.)	S.B.P. "E"
E-08	02	2 mgd to Alameda Creek Flood Control Channel (Latitude 37 deg., 33 min., 52 sec.; Longitude 122 deg., 05 min., 35 sec.)	S.B.P. "D"
E-01	03	3.3 mgd to Alameda Creek Flood Control Channel (Latitude 37 deg., 34 min., 40 sec.; Longitude 122 deg., 03 min., 20 sec.)	Lowry Well

Effluent Stream #	Discharge Serial #	Highest Monthly Average Flow and Discharge Location	Well Site
E-05	04	7.3 mgd (total) to Newark Slough (Latitude 37 deg., 31 min., 40 sec.; Longitude 122 deg., 03 min., 20 sec.)	Darvon 1
E-05			Darvon 2
E-10			S.B.P. "C"
E-06	05	9.9 mgd (total) to Plummer Creek (Latitude 37 deg., 30 min., 40 sec.; Longitude 122 deg., 03 min., 10 sec.)	Willowood 1
E-06			Willowood 2
E-02			Cedar 1
E-02			Cedar 2
E-11			Enterprise
E-03	06	5.3 mgd (total) to Mowry Slough (Latitude 37 deg., 30 min., 20 sec.; Longitude 122 deg., 00 min., 40 sec.)	Bellflower
E-12			S.B.P. "B"
E-04			Farwell
E-13			S.B.P. "A"

Note: Effluent stream number E-09 (Willow Street Well) of Order No. 84-22 has been destroyed.

- Testing performed by Jones-Hamilton Company as part of their investigation/remediation study related to a hazardous material release shows that effluent stream number E-11 (well site "Enterprise") has been contaminated with dichloroethane (DCA). The Discharger has discontinued discharging from this well.
- The discharges are presently subject to NPDES Permit CA0038059 (Order No. 84-22, adopted on June 20, 1984) which allows discharge into San Francisco Bay.
- The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986, and the State Water Resources Control Board (SWRCB) approved it on May 21, 1987.
- The Basin Plan contains water quality objectives for South San Francisco Bay and contiguous waters. The beneficial uses of South San Francisco Bay and contiguous water bodies are:

- Water Contact Recreation
- Non-contact Water Recreation
- Wildlife Habitat
- Preservation of Rare and Endangered Species
- Estuarine Habitat
- Fish Migration and Spawning
- Industrial Service Supply
- Shellfish Harvesting
- Navigation
- Commercial and Sport Fishing

7. The Basin Plan prohibits the discharge of wastewater having particular characteristics of concern to beneficial uses at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any dead-end slough, or to San Francisco Bay south of the Dumbarton Bridge. This discharge complies with the three prohibitions because it does not contain particular characteristics of concern to beneficial uses.
8. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
9. The Discharger and interested agencies and persons have been notified of the Board's intent to revise and reissue requirements for the existing discharge and have been provided with the opportunity for a public hearing and opportunity to submit their written views and recommendations.
10. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. The discharge of effluents other than described in this Order is prohibited.
2. The utilization of these wells in the clean-up of manufactured toxic pollutants as a result of leaks, spills, or other incidents is prohibited without the prior approval of the Executive Officer.
3. Discharges from effluent stream number E-11 (well site "Enterprise") is prohibited until the Discharger makes a determination that the well is free of contamination.

B. Effluent Limitations

1. The survival of test organisms acceptable to the Executive Officer in 96-hour bioassays of the effluent shall achieve a value of not less than 70% survival.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

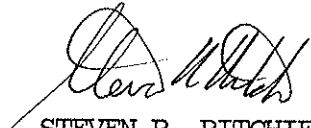
- a. Floating, suspended, or deposited macroscopic particulated matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, taste, odor, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
- a. Dissolved oxygen 5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
 - b. Dissolved sulfide 0.1 mg/l maximum
 - c. pH Variation from natural ambient pH by more than 0.5 pH units.
 - d. Un-ionized ammonia 0.025 mg/l as N Annual Median
0.4 mg/l as N Maximum
3. The discharger shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 84-22. Order No. 84-22 is hereby rescinded.
2. The Discharger shall comply with all sections of this Order immediately upon adoption.

3. The Discharger shall comply with the attached self-monitoring program. The Executive Officer may make minor amendments to it pursuant to federal regulations (40 CFR 122.63).
4. The Discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements," dated December, 1986 except Items A.6, A.9, A.10, A.11, A.12, A.18, B.2, B.3, C.8, and C.11.
5. This Order expires on July 19, 1994. The Discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
6. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

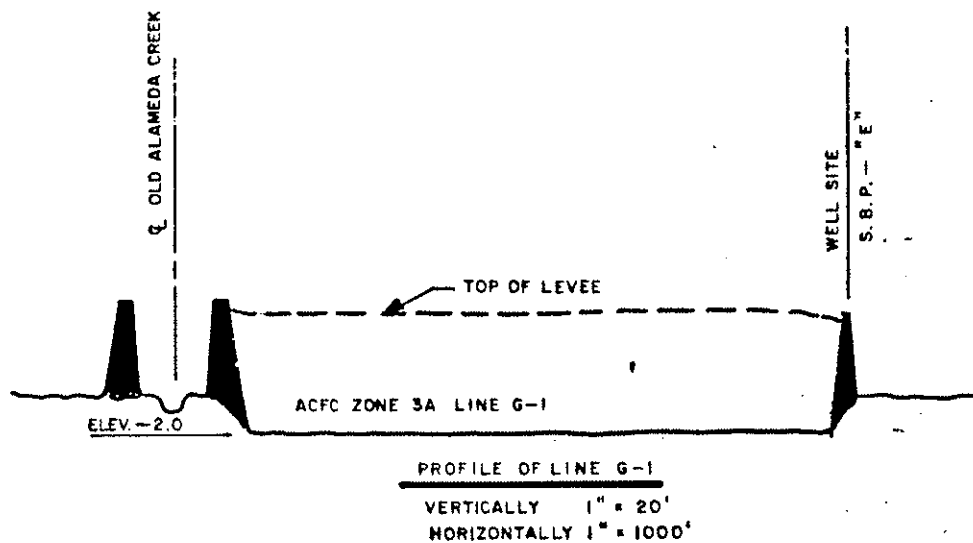
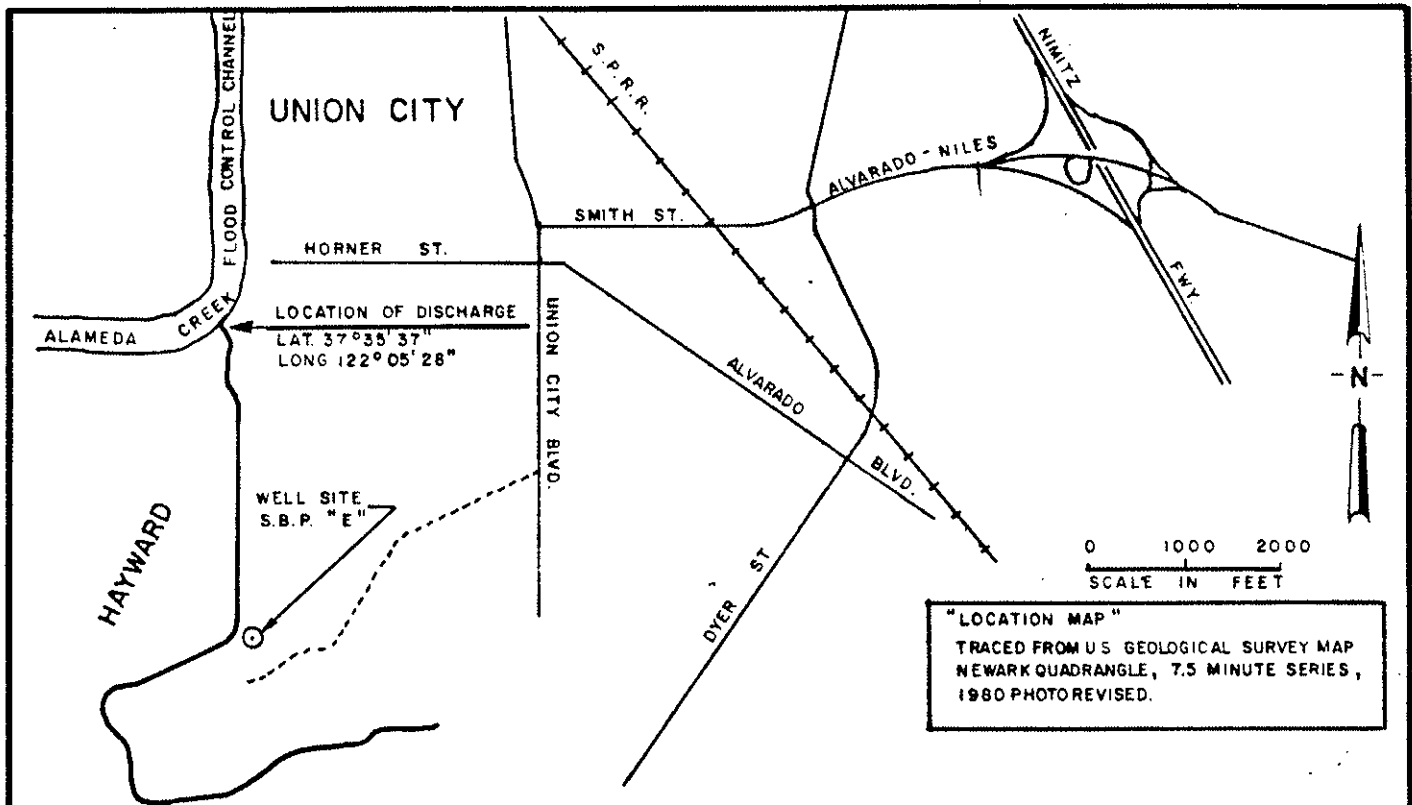
I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on July 19, 1989.


STEVEN R. RITCHIE
Executive Officer

Attachments:

Standard Provisions & Reporting
Requirements, December 1986
Self-Monitoring Program

Attachment A - Location Maps (6) of ACWD Wells and Discharge Locations.



NPDES PERMIT CA0038059

DISCHARGE SERIAL NO. 001

WASTEWATER DISCHARGE OF A.C.W.D.

AQUIFER RECLAMATION / SALINITY BARRIER

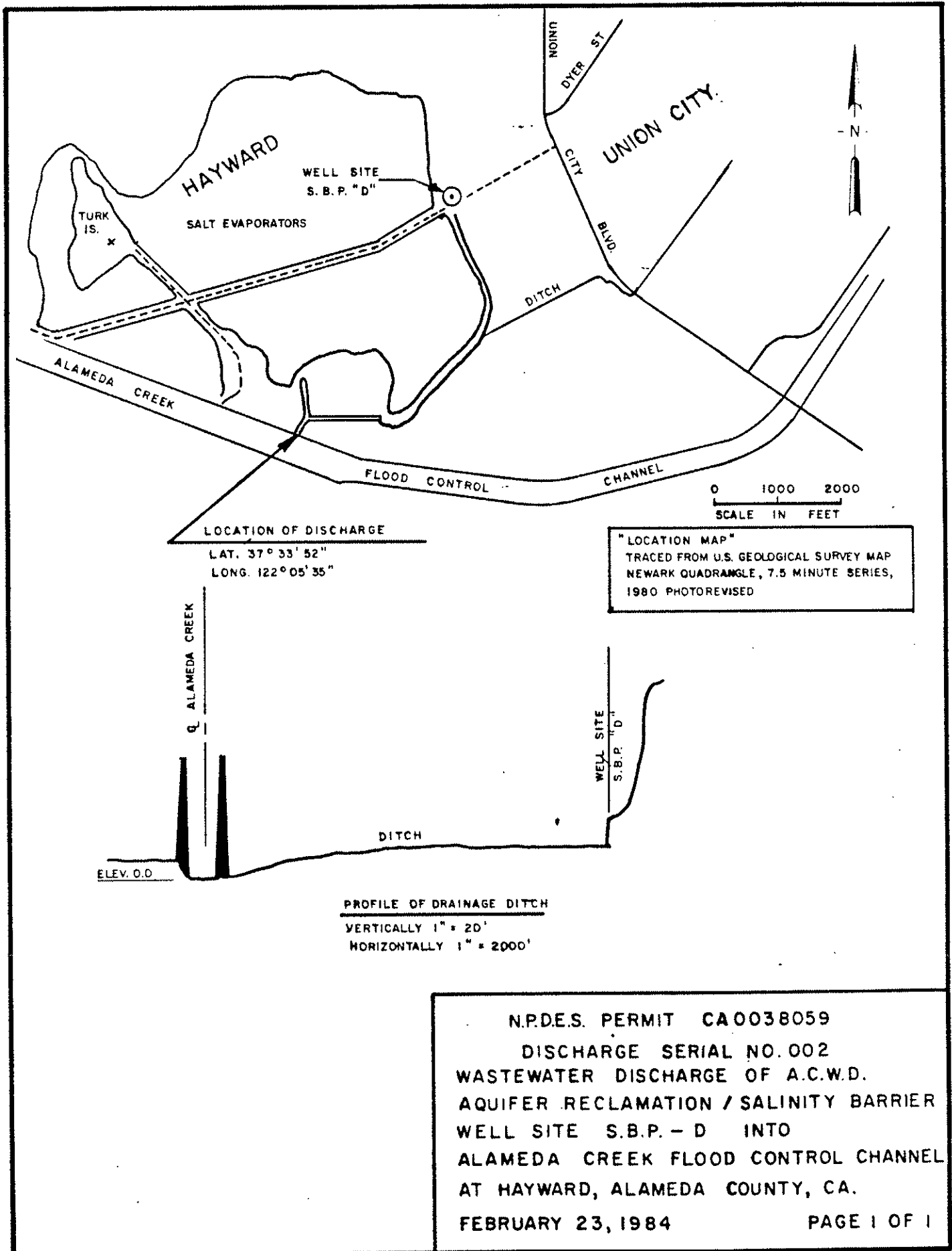
WELL SITE S.B.P. - E INTO OLD

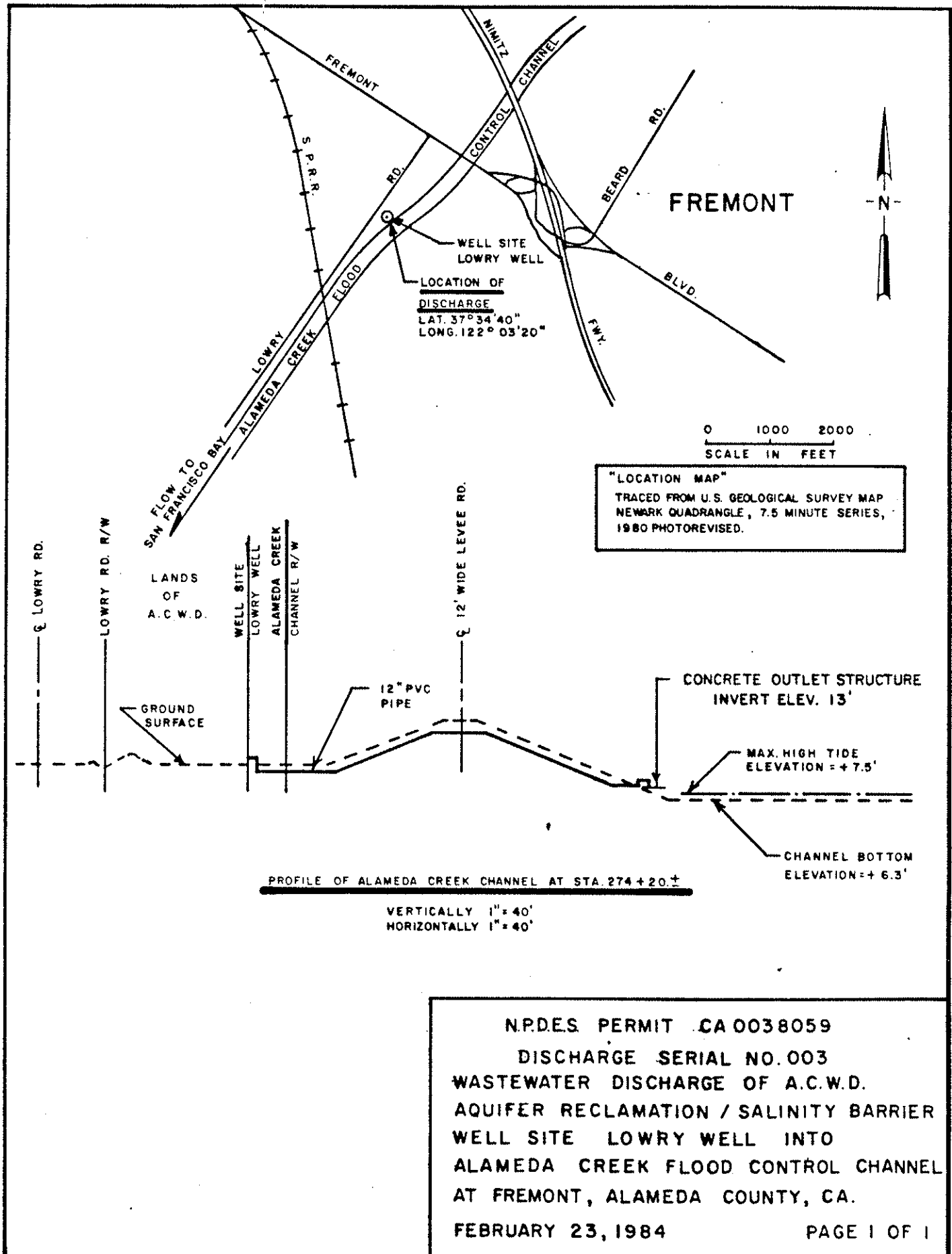
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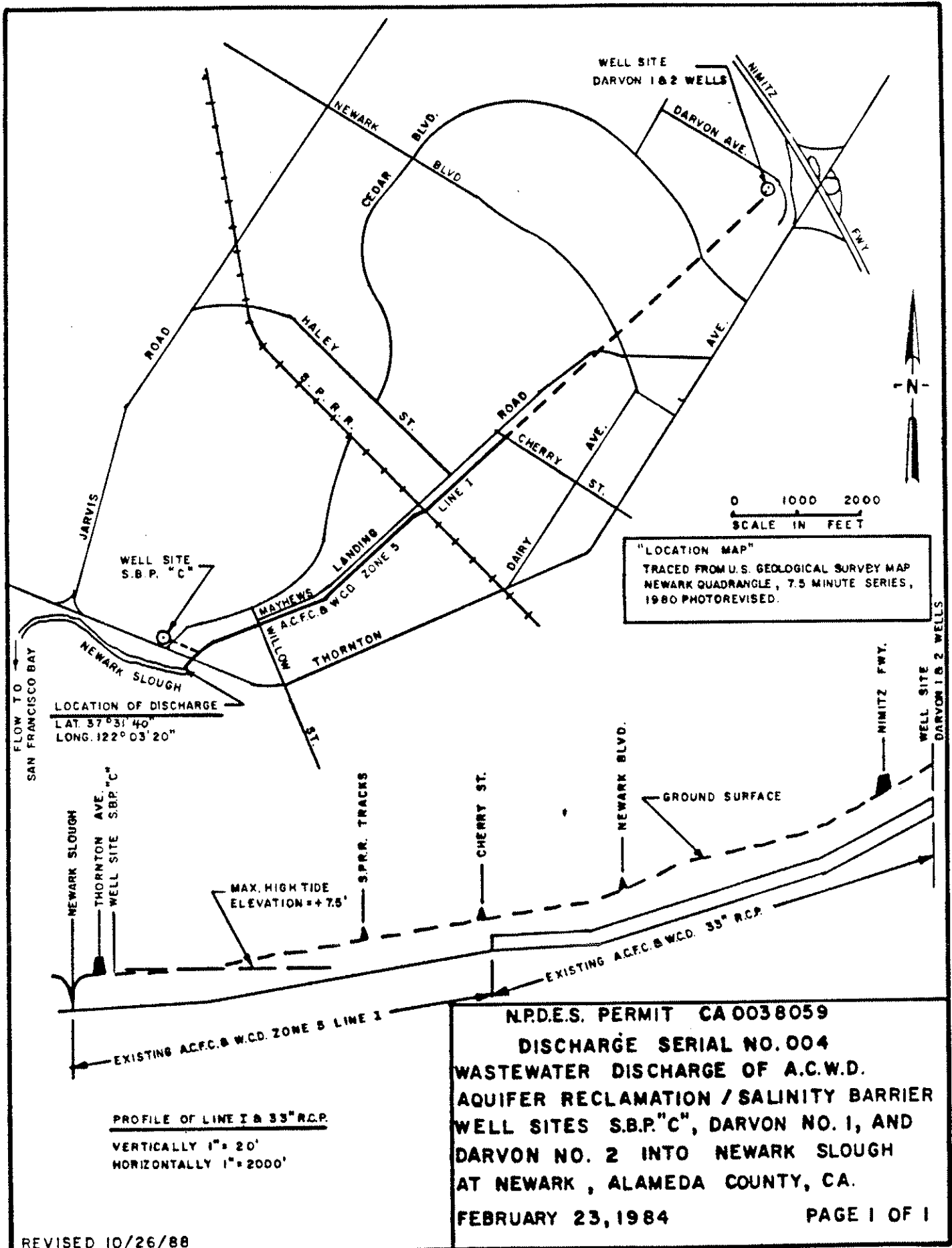
ALAMEDA COUNTY, CA.

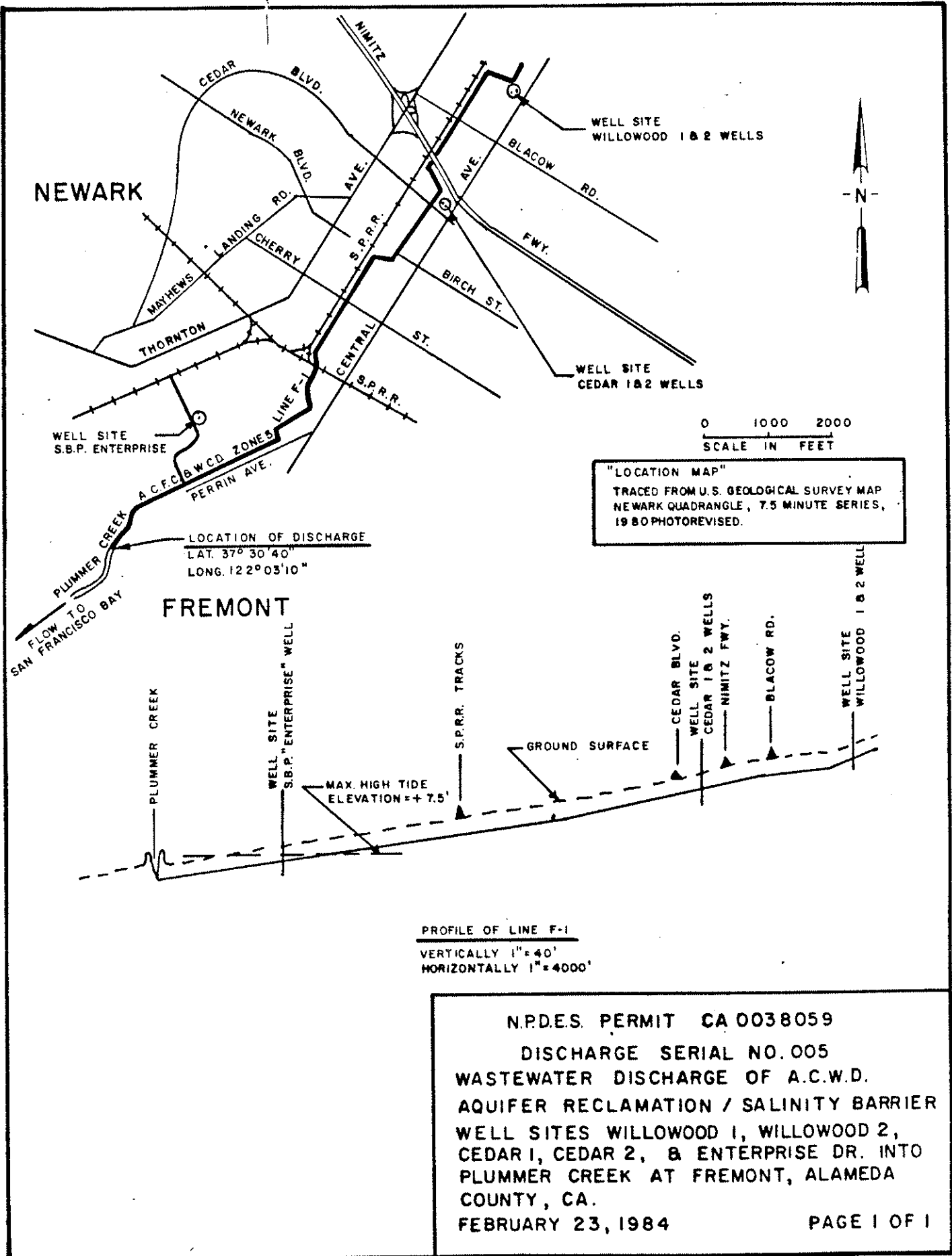
FEBRUARY 23, 1984

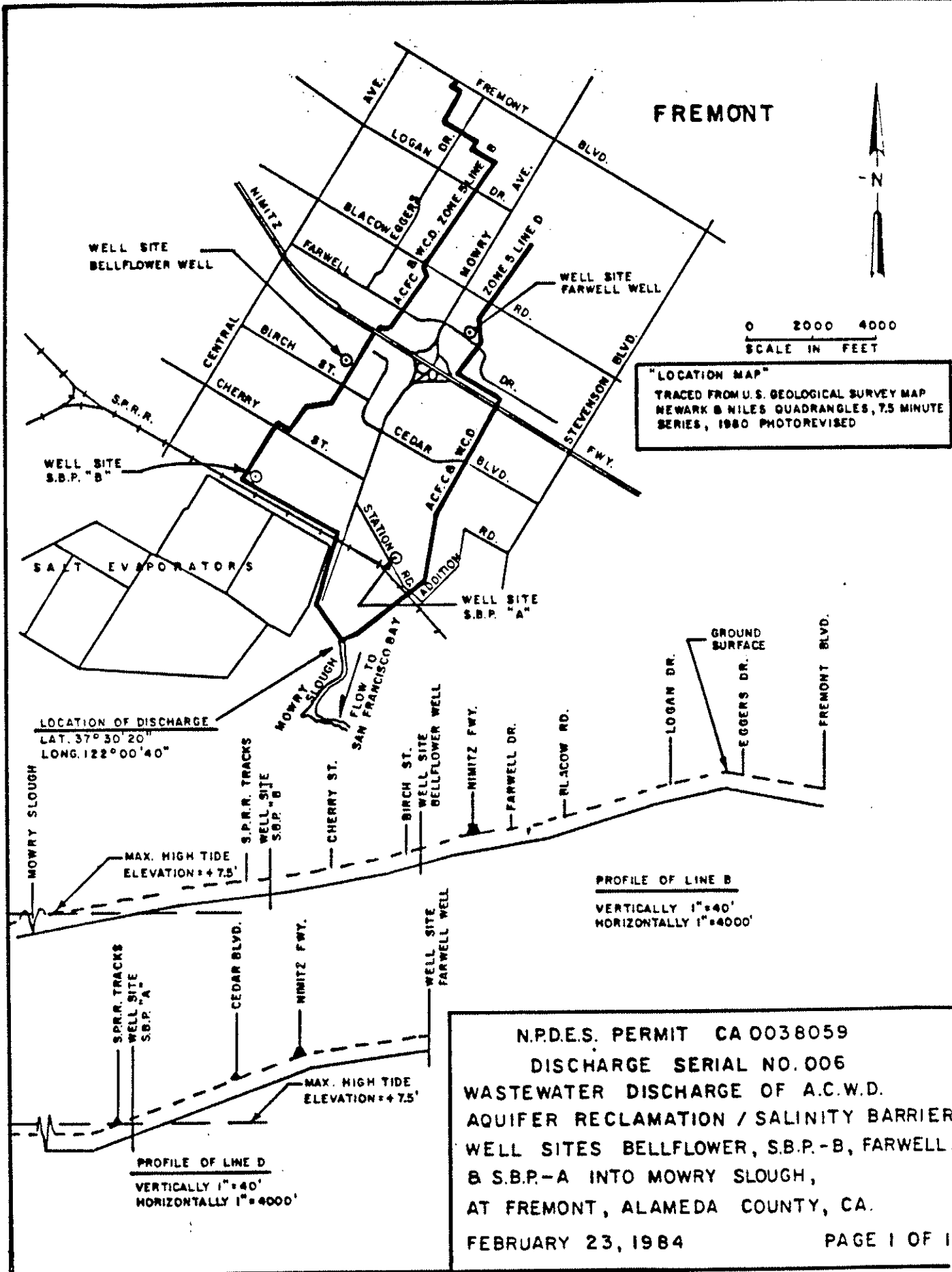
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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

AQUIFER RECLAMATION/SALINITY BARRIER WELLS

ALAMEDA COUNTY WATER DISTRICT

FREMONT AND NEWARK, ALAMEDA COUNTY

NPDES NO. CA 0038059

ORDER NO. 89-122

CONSISTS OF

PART A, dated December 1986

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

Each of the fifteen effluent streams, E-01 through E-16 (E-09 has been destroyed) shall be sampled at a point between each well and its point of discharge into an adjacent ACFC & WCD flood control channel.

II. SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

The schedule of sampling, measurements, and analysis shall be that given as Table I.

III. MODIFICATIONS OF PART "A", DATED 12/86

- A. Exclusions: Does not include the following paragraphs of Part A:
Paragraphs D.1, D.2 (except D.2.b), D.3, D.4, D.5, E.1, E.3, E.4, F.3, F.4, F.5, G.4.c, and G.4.e.
- B. Part A, paragraph G.4 shall be modified to: "Written reports shall be filed regularly for each calendar quarter by the fifteenth day of the month following the end of each calendar quarter..."

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

- 1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 89-122.
- 2. Is effective on the date shown below.
- 3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger and revisions will be ordered by the Executive Officer.


STEVEN R. RITCHIE
Executive Officer

Effective Date 7/19/89

Attachment: Table I

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSES

NPDES NO. CA0038059
ORDER NO. 89-122

SAMPLING STATIONS	All E Stat.
TYPE OF SAMPLES	G
Flow Rate (mgd)	M
Fish Toxicity (% survival) ⁽¹⁾	M
Total Dissolved Solids (mg/l)	M
pH (units)	M
Temperature (°C)	M
Chlorides (mg/l)	M
Standard Observations ⁽²⁾	M
Ethylene Dibromide ⁽³⁾	2/Y
Bromoform ⁽³⁾	2/Y
1,2 dichloroethane ⁽³⁾	2/Y
Dibromochloromethane ⁽³⁾	2/Y
Priority Pollutants - Volatile Organics (Method 8240) ⁽⁴⁾	Y
Priority Pollutants - Semivolatile Organics (Method 8270) ⁽⁴⁾	Y

LEGEND FOR TABLE

G = Grab sample
M = One sample per month
2/Y = Two samples per year
at six months intervals
Y = One sample per calendar year

- (1) Compliance with the effluent toxicity requirement shall be determined by performing static renewal (using a new 24-hour composite sample for each day of the four day test) bioassays using two test species. One shall be

three-spine stickleback, and the other shall be either rainbow trout, fathead minnow, silverside, english sole, or sanddab. The Discharger shall conduct the bioassay testing on two discharging wells every month. If possible, the bioassay testing shall be conducted on wells not tested during the previous quarter. The Executive Officer may consider dropping the static renewal and the two test species requirements to a 96-hour static test using one test species one year after the effective date.

- (2) Standard Observations includes noting the presence or absence and the source of floating and suspended material of waste origin (such as oil, grease, algae, and other macroscopic particulate matter).
- (3) Ethylene Dibromide, Bromoform, 1,2 dichloroethane and Dibromochloromethane samples will be taken at E-10 only as a check on FMC-Newark cleanup action. No detection is expected at the implementation of this SMP. Sampling is only for precautionary measures.
- (4) All discharging wells must be individually tested once per calendar year for Priority Pollutants - Volatile Organics (Method 8240) and Priority Pollutants - Semivolatile Organics (Method 8270). The Discharger may elect to make composites instead of testing each well individually, with each composite containing equal portions from no more than five different wells. If any priority pollutant is detected, the Discharger shall determine which well(s) have been contaminated with which priority pollutant(s) and cease discharging from those well(s), pending a determination of no contamination. No detection is expected at the implementation of this SMP. Sampling is only for precautionary measures.